

CHAPTER 4

POINT AND NONPOINT SOURCE CHARACTERIZATION OF THE NORTH FORK HOLSTON RIVER WATERSHED

4.1 Background.

4.2. Characterization of HUC-10 Subwatersheds 4.2.A. 0601010102 (North Fork Holston River)

4.1. BACKGROUND. This chapter is organized by HUC-10 subwatershed, and the description of each subwatershed is divided into four parts:

- i. General description of the subwatershed
- ii. Description of point source contributions
- ii.a. Description of facilities discharging to water bodies listed on the 2002 303(d) list
- iii. Description of nonpoint source contributions

There is one HUC 10-digit subwatershed in the Tennessee portion of the North Fork Holston River Watershed (HUC 06010101).

Information for this chapter was obtained from databases maintained by the Division of Water Pollution Control or provided in the WCS (Watershed Characterization System) data set. The WCS used was version 2.0 (developed by Tetra Tech, Inc for EPA Region 4) released in 2003.

WCS integrates with ArcView® v3.x and Spatial Analyst® v1.1 to analyze user-delineated (sub)watersheds based on hydrologically connected water bodies. Reports are generated by integrating WCS with Microsoft® Word. Land Use/Land Cover information from 1992 MRLC (Multi-Resolution Land Cover) data are calculated based on the proportion of county-based land use/land cover in user-delineated (sub)watersheds. Nonpoint source data in WCS are based on agricultural census data collected 1992–1998; nonpoint source data were reviewed by Tennessee NRCS staff.

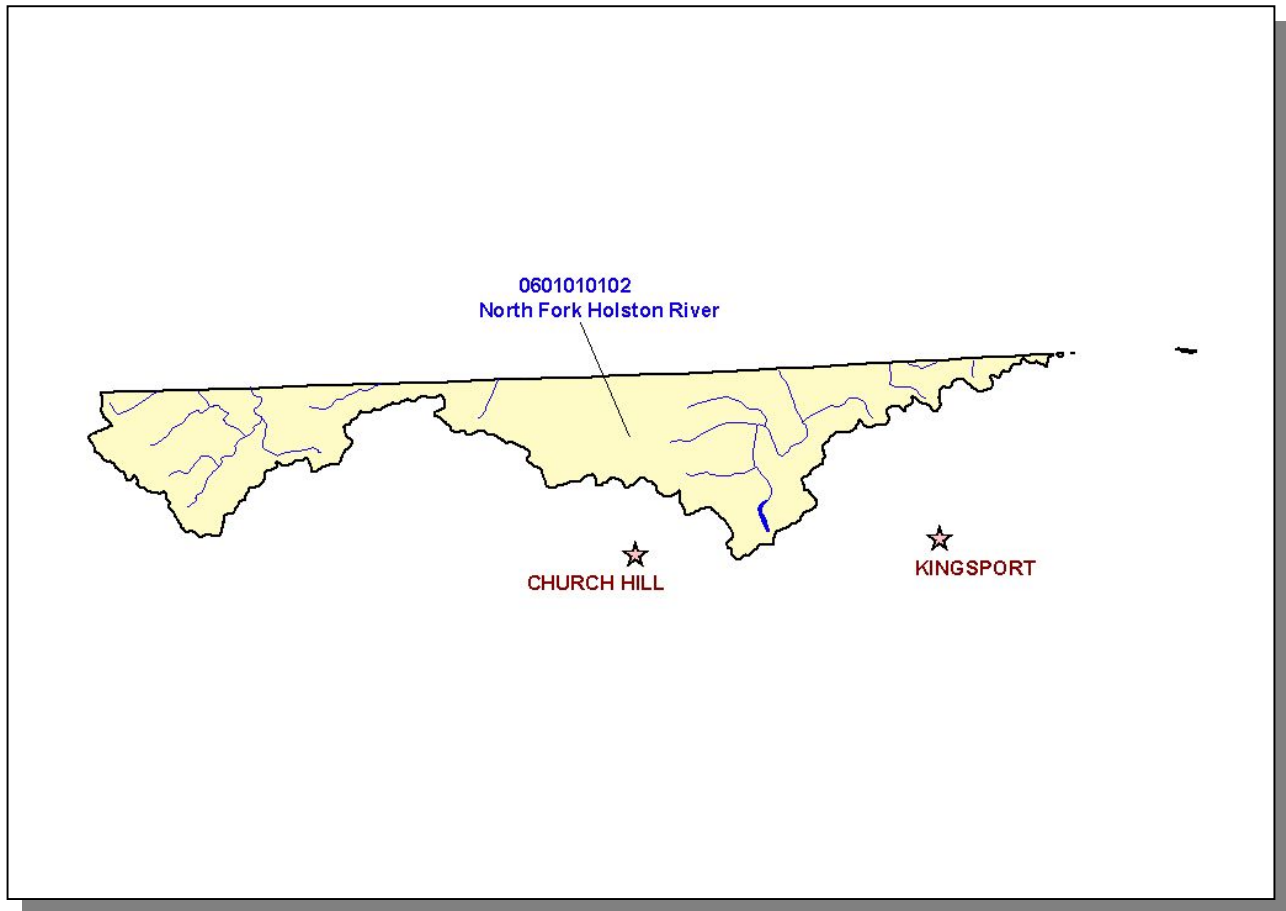


Figure 4-1. The Tennessee Portion of the North Fork Holston River Watershed is Composed of one USGS-Delineated Subwatersheds (10-Digit Subwatersheds). Locations of Church Hill and Kingsport (in adjacent watersheds) are shown for reference.

4.2. CHARACTERIZATION OF HUC-10 SUBWATERSHEDS. The Watershed Characterization System (WCS) software and data sets provided by EPA Region IV were used to characterize the Tennessee portion of the North Fork Holston River Watershed.

HUC-10	HUC-12
0601010102	060101010205 (Lower North Fork Holston River)
	060101010207 (Possum Creek)

Table 4-1. HUC-12 Drainage Areas are Nested Within HUC-10 Drainages. NRCS worked with USGS to delineate the HUC-10 and HUC-12 drainage boundaries.

4.2.A. 0513010802 (North Fork Holston River).

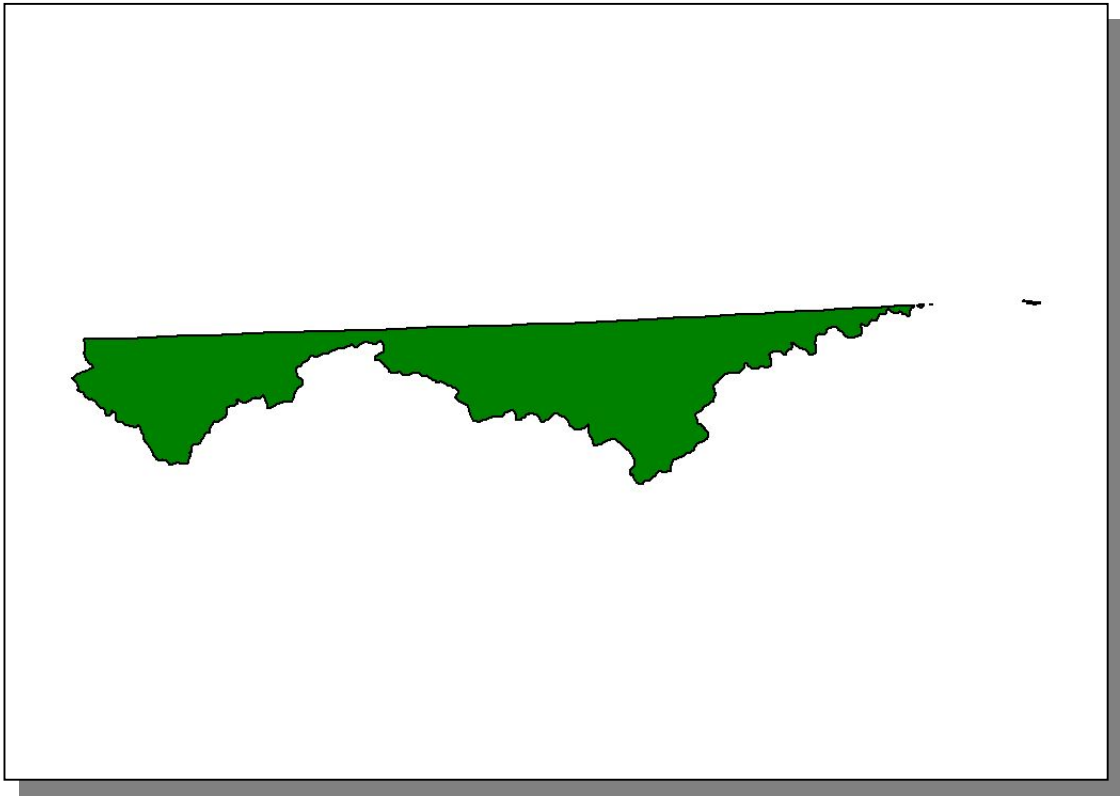


Figure 4-2. Location of Subwatershed 0601010102. The Tennessee portion of North Fork Holston River Watershed is composed of one HUC-10 subwatershed.

4.2.A.i. General Description.

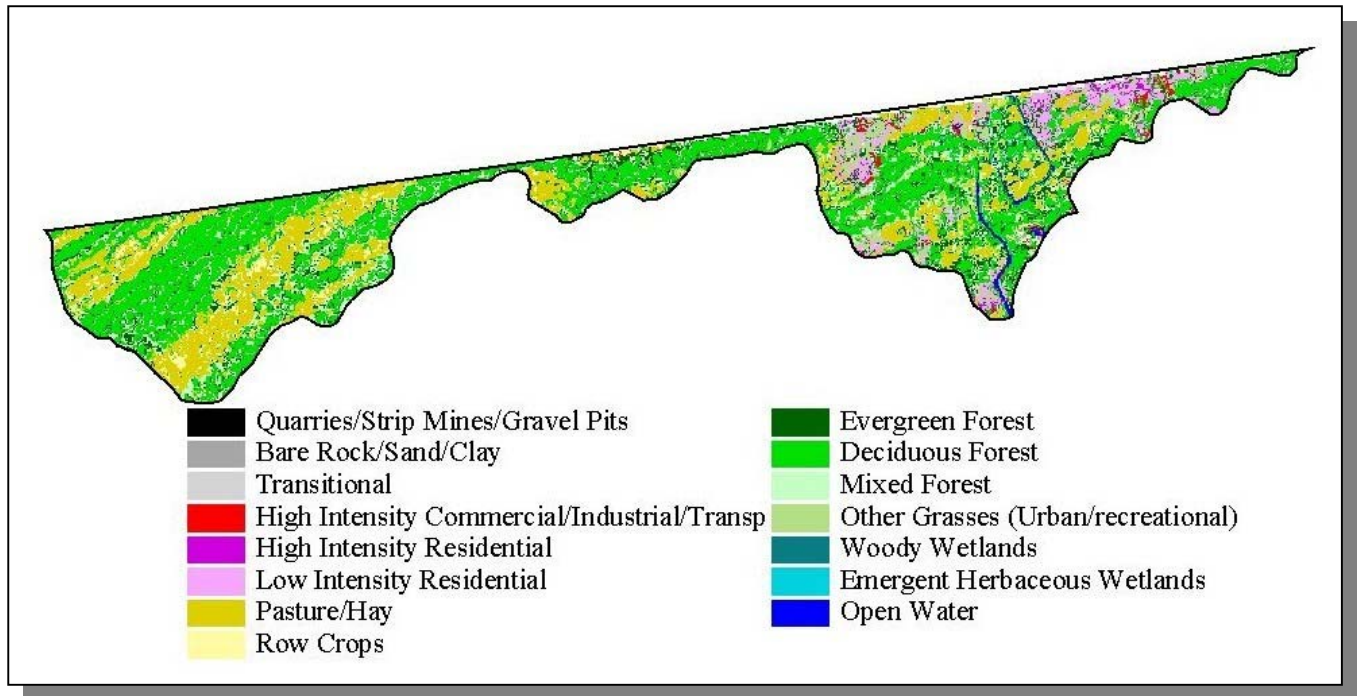


Figure 4-3. Illustration of Land Use Distribution in Subwatershed 0601010102.

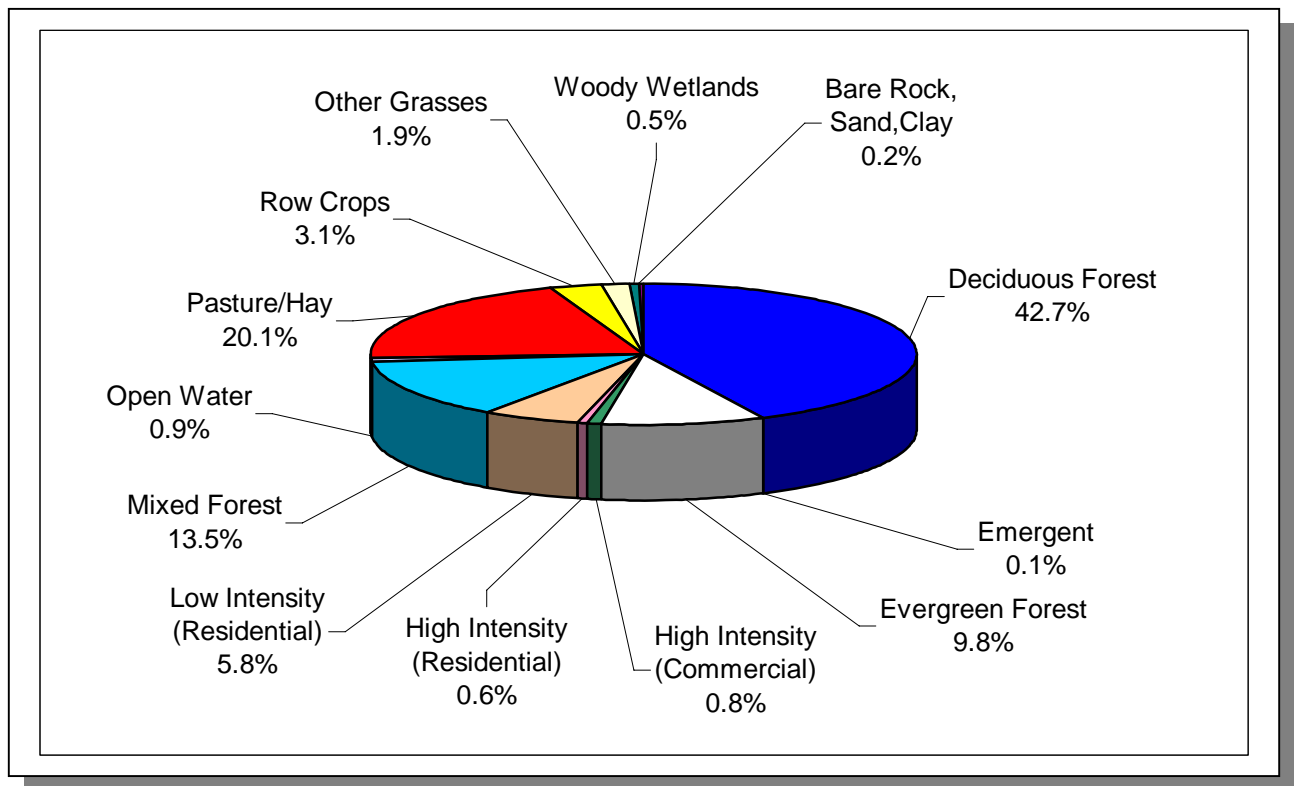


Figure 4-4. Land Use Distribution in Subwatershed 0601010102. More information is provided in Appendix IV.

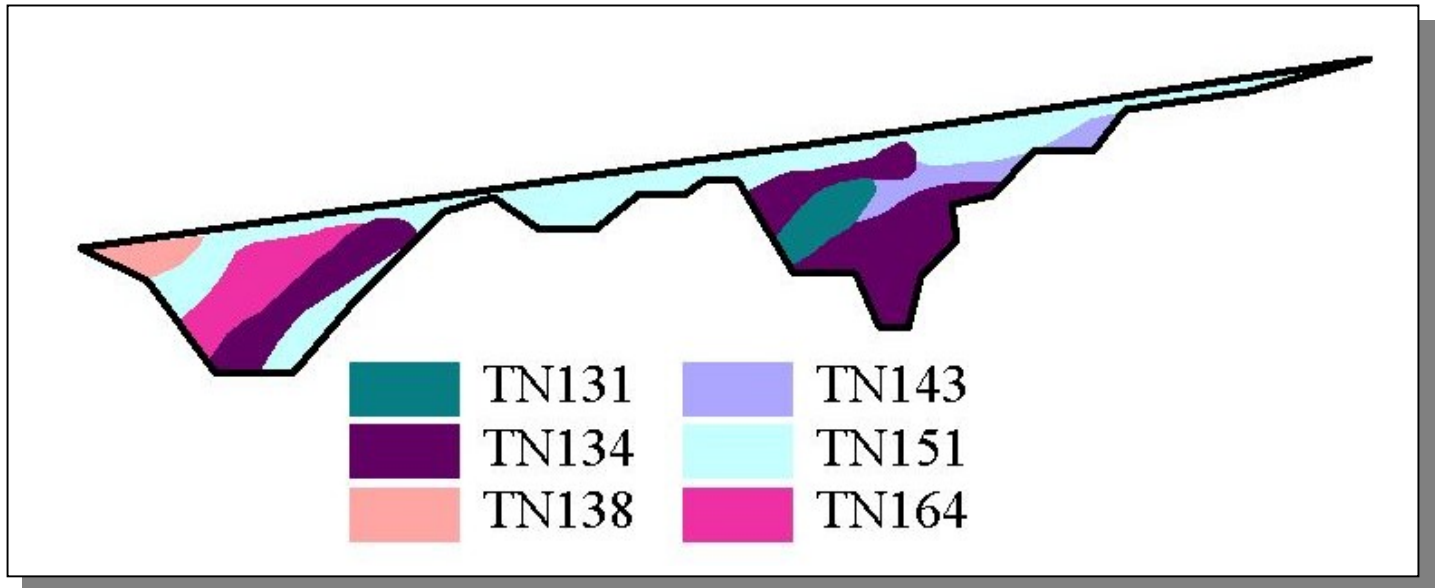


Figure 4-5. STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 0601010102.

STATSGO MAP UNIT ID	PERCENT HYDRIC	HYDROLOGIC GROUP	PERMEABILITY (in/hour)	SOIL pH	ESTIMATED SOIL TEXTURE	SOIL ERODIBILITY
TN131	0.00	C	1.17	4.95	Silty Loam	0.33
TN134	0.00	B	1.38	5.18	Loam	0.31
TN138	0.00	C	2.48	4.26	Sandy Loam	0.22
TN143	0.00	C	1.22	6.44	Loam	0.32
TN151	0.00	C	2.88	4.75	Loam	0.40
TN164	0.00	C	4.48	5.15	Loam	0.25

Table 4-2. Soil Characteristics by STATSGO (State Soil Geographic Database) Soil Map Units in Subwatershed 0601010102. More details are provided in Appendix IV.

County	COUNTY POPULATION			Portion of Watershed (%)	ESTIMATED POPULATION IN WATERSHED			% Change (1990-1997)
	1990	1997	2000		1990	1997	2000	
Hawkins	44,565	48,821	53,563	2.98	1,328	1,455	1,596	20.2
Sullivan	143,596	150,371	153,048	0.87	1,242	1,301	1,324	6.6
Totals	188,161	199,192	206,611		2,570	2,756	2,920	13.6

Table 4-3. Population Estimates in Subwatershed 0601010102.

			NUMBER OF HOUSING UNITS			
Populated Place	County	Population	Total	Public Sewer	Septic Tank	Other
Kingsport	Hawkins	36,408	16,738	14,810	1,903	25
Mount Carmel	Hawkins	4,039	1,634	1,077	557	0
Totals		40,447	18,372	15,887	2,460	25

Table 4-4. Housing and Sewage Disposal Practices of Select Communities in Subwatershed 0601010102.

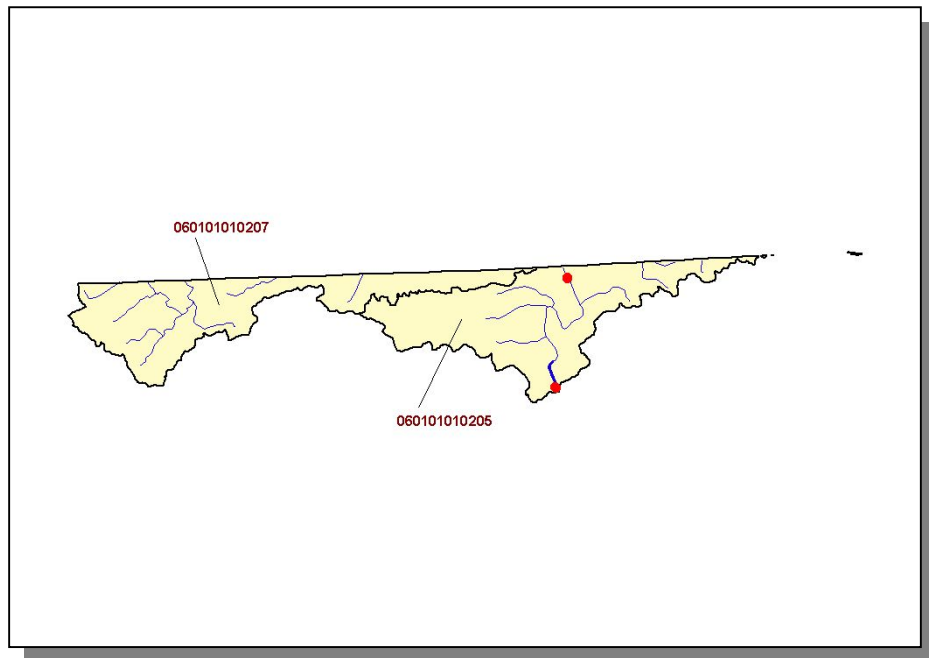


Figure 4-6. Location of STORET Monitoring Sites in Subwatershed 0601010102. Subwatershed 060101010206 and 060101010207 boundaries are shown for reference. More information, including site names and locations, is provided in Appendix IV.

4.2.A.ii Point Source Contributions.

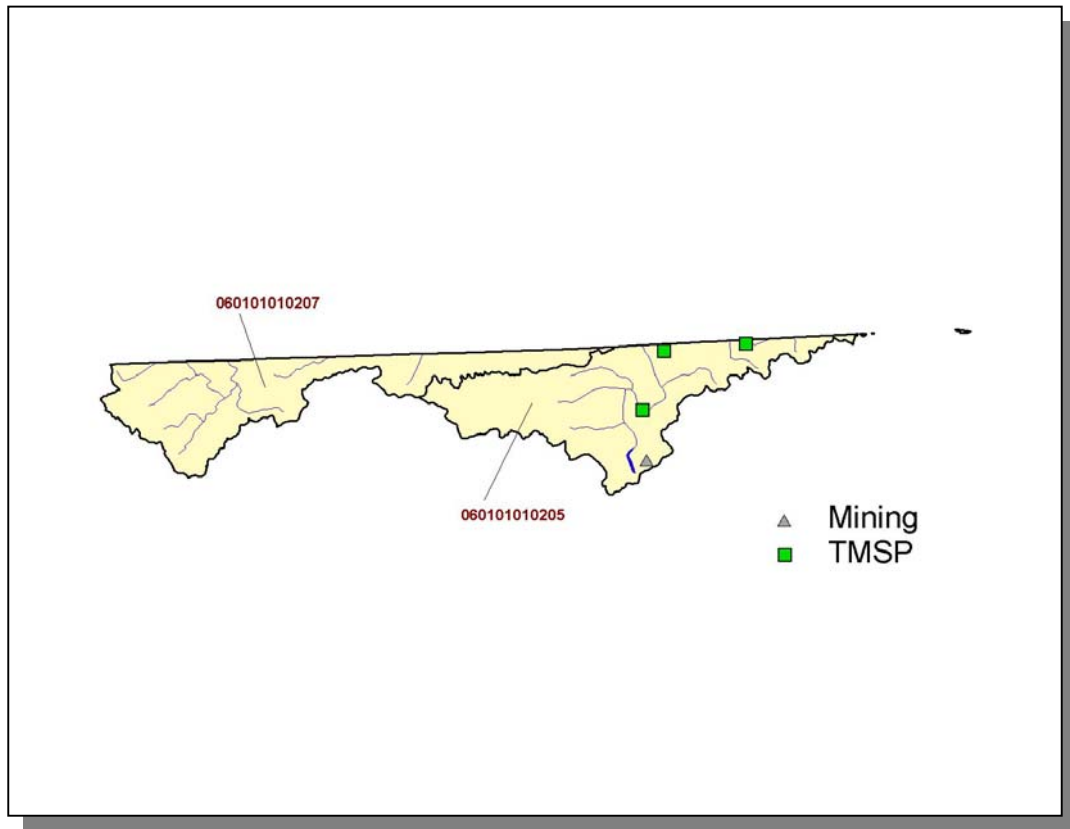


Figure 4-7. Location of Active Point Source Facilities in Subwatershed 0601010102. Subwatershed 060101010205 and 060101010207 boundaries are shown for reference. More information, including the names of facilities, is provided in Appendix IV.

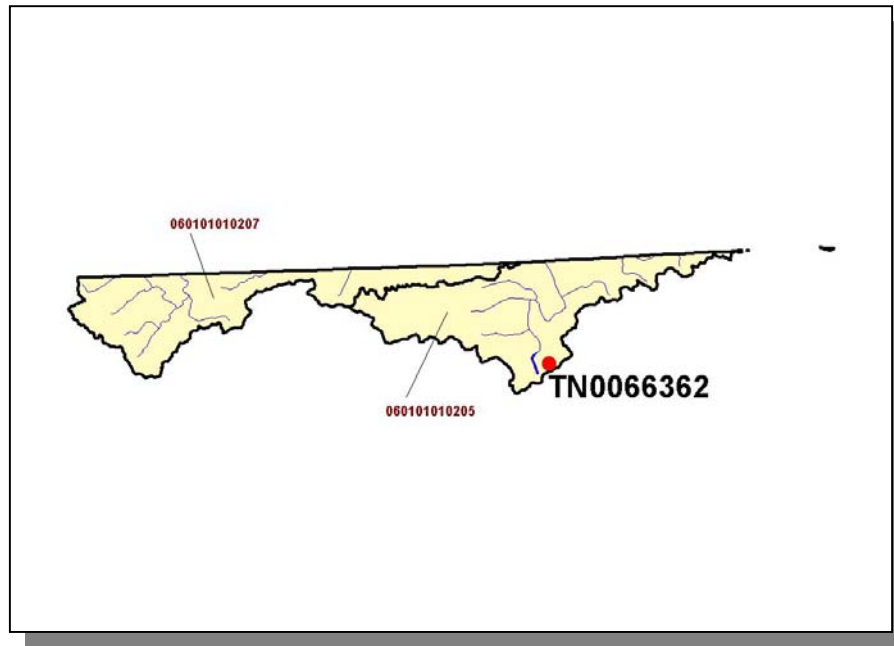


Figure 4-8. Location of Active Mining Facilities in Subwatershed 0601010102. Subwatershed 060101010205 and 060101010207 boundaries are shown for reference. More information, including the names of facilities, is provided in Appendix IV.

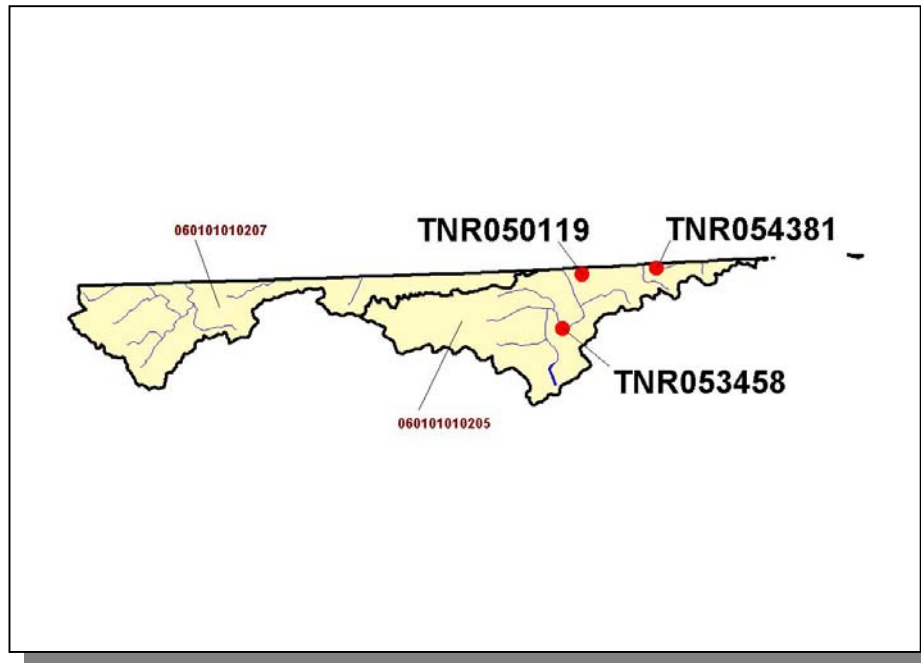


Figure 4-9. Location of TMSF Facilities in Subwatershed 0601010102. Subwatershed 060101010205 and 060101010207 boundaries are shown for reference. More information, including the names of facilities, is provided in Appendix IV.

4.2.A.iii. Nonpoint Source Contributions.

LIVESTOCK (COUNTS)						
Beef Cow	Cattle	Milk Cow	Chickens (Layers)	Chickens Sold	Hogs	Sheep
1,948	3,803	97	6	<5	44	24

Table 4-5. Summary of Livestock Count Estimates in Subwatershed 0601010102. According to the 1997 Census of Agriculture (<http://www.nass.usda.gov/census/>), "Cattle" includes heifers, heifer calves, steers, bulls and bull calves; "Chickens" are layers 20 weeks and older; "Chickens Sold" are all chickens used to produce meat.

County	INVENTORY		REMOVAL RATE	
	Forest Land (thousand acres)	Timber Land (thousand acres)	Growing Stock (million cubic feet)	Sawtimber (million board feet)
Hawkins	177.4	177.4	0.4	2.1
Sullivan	123.7	123.7	0.1	0.3
Total	301.1	301.1	0.5	2.4

Table 4-6. Forest Acreage and Annual Removal Rates (1987-1994) in Subwatershed 0601010102.

CROPS	TONS/ACRE/YEAR
Grass (Pastureland)	0.55
Legumes (Hayland)	0.16
Grass (Hayland)	0.52
Legumes, Grass (Hayland)	0.34
Grass, Forbs, Legumes (Mixed Pasture)	0.81
Forest Land (Not Grazed)	0.00
Forest Land (Grazed)	0.00
Corn (Row Crops)	8.20
Tobacco (Row Crops)	13.13
Other Vegetable and Truck Crops	33.5
Non-Agricultural Land Use	0.00
Other Land in Farms	0.02
Farmsteads and Ranch Headquarters	0.39

Table 4-7. Annual Estimated Total Soil Loss in Subwatershed 0601010102.